CLAIMS

1. A method for stimulating an oilfield by injecting an inflow stream of a fluid into an oil producing well linked to the oilfield, displacing the oil and recovering an outflow stream of fluid comprising the oil,
wherein at least two streams are injected into at least two production zones of an oil well or are injected into at least two different oil producing wells from which at least two outflow streams from the two zones or wells are combined before recovering, with a scale inhibitor having detectable moieties being introduced into the oilfield(s) and/or into the fluids, characterized in that two different scale inhibitors are used, dedicated to the two zones or wells, said different scale inhibitors having different detectable moieties that can be distinguished by analyzing.

2. A method according to claim 1, wherein the different scale inhibitors are introduced into the fluid.

3. A method according to claim 1, wherein the different scale inhibitors are introduced into the oilfield before stimulating, by forcing said different scale inhibitors into the different oilfields, according to a squeeze treatment, the scale inhibitors being released in the outflow streams.

4. A method according to any of the preceding claims, wherein the different detectable moieties are selected from the group consisting of:
a) atom-marked moieties, comprising at least one atom selected from the group consisting of boron, silicon, and germanium,
b) moieties deriving from acetoxy-styrene, preferably 4-acetoxy-styrene, or from ortho-allyl phenol.
c) moieties deriving from a monomer having the following formula:

$$X_2C=CYY',$$

wherein:

- X, which is identical or different, is a hydrogen atom, or a C_1-C_4 alkyl group,
- Y, is a hydrogen atom or a C_1-C_4 alkyl group,
- Y' is a group having formula –L-Arom, wherein

- L is a covalent bound or a divalent organic linking group optionally comprising heteroatoms, and
- Arom is a group comprising at least two conjugated aromatic rings, preferably at least three, said rings comprising conjugated carbon atoms, and optionally nitrogen or oxygen atoms, and, linked to said carbon atoms, hydrogen atoms or substituants,

d) moieties obtained by reacting, after polymerization, units deriving from vinyl-benzyl chloride with

- 8-aminopyrene-1,3,6-trisulfonic acid or,
- 9-(2-(ethoxycarbonyl)phenyl)-3,6-bis(ethylamino)-2,7-dimethylxanthylium chloride (Rhodamine 6G), or
- CellTracker Blue CMAC,

or salts thereof,

e) moieties deriving from the monomer obtained by reacting vinyl-benzyl chloride with 8-aminopyrene-1,3,6-trisulfonic acid or a salt thereof,

f) moieties comprising at least one phosphate or phosphonate group,

g) moieties comprising at least one sulfonate or sulfonic acid group.

5. A method according to one of the preceding claims, wherein the different scale inhibitors having different detectable moieties are scale-inhibiting polymers comprising scale inhibiting units and different tagging units having the different moieties, wherein the tagging units are selected from the group consisting of:

a) atom-marked units, comprising at least one atom selected from the group consisting of boron, silicon, and germanium,

b) units deriving from acetoxy-styrene, preferably 4-acetoxy-styrene, or from ortho-allyl phenol,

c) units deriving from a monomer having the following formula:

$$X_2C=CYY',$$

wherein:

- X, which is identical or different, is a hydrogen atom, or a C_1-C_4 alkyl group,
- Y, is a hydrogen atom or a C_1-C_4 alkyl group,
- Y' is a group having formula –L-Arom, wherein
  - L is a covalent bound or a divalent organic linking group optionally comprising heteroatoms, and

- Arom is a group comprising at least two conjugated aromatic rings, preferably at least three, said rings comprising conjugated carbon atoms, and optionally nitrogen or oxygen atoms, and, linked to said carbon atoms, hydrogen atoms or substituants,

d) units obtained by reacting, after polymerization, units deriving from vinyl-benzyl chloride with

- 8-aminopyrene-1,3,6-trisulfonic acid,
- 9-(2-(ethoxycarbonyl)phenyl)-3,6-bis(ethylamino)-2,7-dimethylxanthylium chloride (Rhodamine 6G), or
- CellTracker Blue CMAC,

or salts thereof, and

e) units deriving from the monomer obtained by reacting vinyl-benzyl chloride with 8-aminopyrene-1,3,6-trisulfonic acid or a salt thereof.

6. A method according to claim 5, wherein at least one of the different scale inhibitors is a tagged scale inhibiting polymer comprising tagging units deriving from 9-vinylanthracene.

7. A method according to one of claims 5 to 6 , wherein the scale inhibiting units derive from monomers selected from the group consisting of:

- vinyl sulfonic acid, or vinyl sulfonates salts,
- vinyl phosphonic acid, or vinyl phosphonates salts
- acrylic acid, methacrylic acid,
- maleic anhydride, maleic acid,
- styrene-p-sulfonic acid, or styrene sulfonates salts,
- acrylamido-2-methylpropanesulfonic acid (AMPS), and
- mixtures thereof.

8. A method according to one of the preceding claims comprising measuring the amounts of the different scale inhibitors in the recovered fluid, or of a fluid derived therefrom, and if the amount of a scale inhibitor is below a given value, addressing a scale problem that occurs in the zone or well the scale inhibitor is dedicated to.

9. A method according to the preceding claim, wherein the scale inhibitor is introduced into the water based fluid, or more scale inhibitor is introduced into the fluid, or the scale inhibitor is introduced into the oilfield according to a squeeze treatment.

10. A method according to one of the preceding claims, wherein the scale-inhibitors can be distinguished by a single analysis method.

11. A method according to claim 10, wherein the single analysis method is a fluoromerty method.